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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,833	04/12/2001	Max Amon	017750-711	1959
7590	06/29/2004		EXAMINER	
Patrick C. Keane BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, VA 22313-1404			AMARI, ALESSANDRO V	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/832,833	AMON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Alessandro V. Amari	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 23 March 2004.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,3-7,13-15 and 17-19 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3-7,13-15 and 17-19 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: On page 5 of the specification, there is no description or definition of the following term for equation 1:  $L_i$ .

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 4, 6, 7, 13-15 and 17 stand rejected under 35 U.S.C. 102(b) as being anticipated by Chipper US Patent 6,018,414.

In regard to claim 1, Chipper discloses (see Figures 2A and 2B) an infrared (IR) lens comprising: a first surface (left side of 32); and a second surface (right side of 32), wherein the IR lens is a moldable IR transmissive material as described in column 5, lines 63-67 and column 7, lines 28-29 and one of a first surface and a second surface includes a kinoform superimposed on an aspheric surface as described in column 6, lines 52-55, column 7, lines 60-63 and column 9, lines 40-47; wherein the one surface with the kinoform superimposed on the aspherical surface is defined by the claimed equation as described in column 8, lines 2-67 and column 9, lines 1-16. It should be

noted that the claimed equation is seen to be an inherent teaching of the infrared lens as shown by the equation for a diffractive surface described in column 8, lines 28-34.

Regarding claim 3, Chipper discloses that one surface relief with the kinoform superimposed on the aspheric surface is formed directly in a molding operation as described in column 7, lines 28-35 and column 9, lines 40-47. It should also be noted that this claim is a product by process claim and in product-by-process claims, "once a product appearing to be substantially identical is found and a 35 U.S.C. 102/103 rejection [is] made, the burden shifts to the applicant to show an unobvious difference." MPEP 2113. This rejection under 35 U.S.C. 102/103 is proper because the "patentability of a product does not depend on its method of production." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claim 4, Chipper discloses that the moldable IR transmissive material is a chalcogenide glass as described in column 6, lines 12-16.

Regarding claim 6, Chipper discloses that the lens is manufactured as a unitary structure in a molding operation as described in column 7, lines 28-35 and column 9, lines 40-47. It should also be noted that this claim is a product by process claim and in product-by-process claims, "once a product appearing to be substantially identical is found and a 35 U.S.C. 102/103 rejection [is] made, the burden shifts to the applicant to show an unobvious difference." MPEP 2113. This rejection under 35 U.S.C. 102/103 is proper because the "patentability of a product does not depend on its method of production." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

In regard to claim 7, Chipper discloses (see Figures 2A and 2B) an infrared (IR) lens comprising: a first surface (left side of 32); and a second surface (right side of 32), wherein the IR lens is made from a moldable IR transmissive material as described in column 5, lines 63-67 and column 7, lines 28-35 and wherein one of the first surface and the second surface includes a kinoform superimposed on an aspheric surface as described in column 6, lines 52-55, the one first surface or second surface molded from the moldable IR transmissive material as described in column 7, lines 60-63 and column 9, lines 40-47 wherein the one first surface or one second surface with the kinoform superimposed on the aspherical surface is defined by the claimed equation as described in column 8, lines 2-67 and column 9, lines 1-16. It should be noted that the claimed equation is seen to be an inherent teaching of the infrared lens as shown by the equation for a diffractive surface described in column 8, lines 28-34.

In regard to claim 13, Chipper discloses (see Figures 2A and 2B) an infrared IR lens comprising: a first aspherical surface (32); and a second surface (42), , wherein the first aspherical surface as described in column 6, lines 52-55 is superimposed with a kinoform, as described in column 7, lines 60-63 and, wherein the lens is made from a moldable IR transmissive material as described in column 5, lines 63-67, column 7, lines 28-35 and column 9, lines 40-47 wherein the first aspherical surface with the kinoform superimposed on the aspherical surface is defined by the claimed equation as described in column 8, lines 2-67 and column 9, lines 1-16. It should be noted that the claimed equation is seen to be an inherent teaching of the infrared lens as shown by the equation for a diffractive surface described in column 8, lines 28-34.

Regarding claim 14, Chipper discloses that the moldable IR transmissive material is a chalcogenide glass as described in column 6, lines 12-16.

In regard to claim 15, Chipper discloses (see Figures 2A and 2B) an infrared imaging optical arrangement comprising: a first lens (32); and a second lens (38), wherein at least the first lens is made from a moldable infrared (IR) transmissive material as described in column 5, lines 63-67 and column 7, lines 28-35 and wherein at least the first lens has a kinoform superimposed on an aspheric surface on one of a first surface or a second surface as described in column 6, lines 52-55, column 7, lines 60-63 and column 9, lines 40-47; wherein the first lens with the kinoform superimposed on the aspherical surface is defined by the claimed equation as described in column 8, lines 2-67 and column 9, lines 1-16. It should be noted that the claimed equation is seen to be an inherent teaching of the infrared lens as shown by the equation for a diffractive surface described in column 8, lines 28-34.

Regarding claim 17, Chipper discloses that the moldable IR transmissive material is a chalcogenide glass as described in column 6, lines 12-16.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5, 18 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chipper U.S. Patent 6,018,414 in view of Lettington et al. U.S. Patent 4,154,503.

Regarding claims 5, 18 and 19, Chipper teaches the invention as set forth above but does not teach that the moldable IR transmissive material is an arsenic selenide glass.

Regarding claims 5, 18 and 19, Lettington et al. does teach that the moldable IR transmissive material is an arsenic selenide glass as described in column 4, lines 4-30. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize arsenic selenide glass as taught by Lettington et al. in the lens of Chipper in order to form lenses that transmit in the IR range.

***Response to Arguments***

6. Applicant's arguments filed 23 March 2004 have been fully considered but they are not persuasive.

The Applicant asserts that the definitions for the constants appearing in equation 1 are well known to those of ordinary skill in the art. In response, the applicants removed the definitions for the constants from the claim.

In response to this action, the Examiner would like to point out that different symbols (or letters) in formulas can be assigned different meanings in the art. Since the specification should contain a written description of the invention in full, clear, concise and exact terms, the objection to the specification is maintained. Applicant is encouraged to provide the definition for the symbol  $L_i$  in the specification.

The Applicant argues that the prior art, Chipper does not disclose the idea of a single surface with a diffractive surface superimposed on an aspheric surface as presented in Applicants' claims. The Applicant asserts that the passage in Chipper referenced by the Examiner (column 9, lines 40-47) has been misinterpreted by the Examiner. The Applicant states that the passage indicates that the diffractive surfaces are normally separate lenses, but may be instead placed on a second side of the objective lens element. The Applicant then asserts that the passage actually indicates that the aspheric and the kinoform can be placed on different sides of a single lens not superimposed on a single surface of a single lens.

In response to this argument, the Examiner would like to point out that the prior art specifically teaches that, as specifically stated in column 9, lines 41-43, "it will be understood by those skill in the art that the diffractive surface can be formed on a second side of a lens element". Therefore, it is perfectly reasonable for one skilled in the art to have a diffractive surface or kinoform superimposed on an aspheric surface (i.e., the second side of a lens element) for an infrared lens as claimed. Contrary to the applicant's assertion, there is nothing in this passage which teaches against the kinoform being superimposed on an aspheric surface of the lens.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arriola US Patent 5,737,120 also teaches an infrared lens with a kinoform superimposed on an aspherical surface as shown in Figure 3 and as described in column 2, lines 61-65.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ava *AM*  
14 June 2004

  
MARK A. ROBINSON  
PRIMARY EXAMINER